



# BIOLOGY NMDCAT EARLIER PREP

## PMC UNIT WISE TEST Unit-10

**TOPIC:**

✓ **Biotechnology**

**Q.1 Genetic engineering means:**

- |                      |  |
|----------------------|--|
| A. Gene manipulation | B. Utilization of microbes in industries |
| C. Tissue culture    | D. Somatic hybridization                 |

**Q.2 Which of the following produces multiple copies of a gene for basic research or for large scale production of valuable products for humans?**

- |                        |                        |
|------------------------|------------------------|
| A. Restriction enzymes | B. Gene cloning        |
| C. DNA fingerprinting  | D. Gel electrophoresis |

**Q.3 What is the most logical sequence for splicing and insertion of recombinant DNA in bacteria?**

- I.** Transform bacteria  
**II.** Cut the plasmid DNA  
**III.** Extract plasmid DNA  
**IV.** Hydrogen-bond the plasmid to DNA fragments  
**V.** Use ligase to seal plasmid DNA to fragment DNA
- |                      |                      |
|----------------------|----------------------|
| A. I, II, IV, III, V | B. II, III, V, IV, I |
| C. III, II, IV, V, I | D. III, IV, V, I, II |

**Q.4 During reverse transcription, \_\_\_\_\_ is assembled on \_\_\_\_\_.**

- |               |                 |
|---------------|-----------------|
| A. mRNA; DNA  | B. DNA; enzymes |
| C. cDNA; mRNA | D. DNA; agar    |

**Q.5 It is an example of commonly used restriction enzyme in Biotechnology:**

- |            |              |
|------------|--------------|
| A. pSC 101 | B. EcoR1     |
| C. pBR 322 | D. Phage DNA |

**Q.6 How many restriction enzymes are frequently used during genetic engineering?**

- |        |        |
|--------|--------|
| A. 20  | B. 60  |
| C. 400 | D. 200 |

**Q.7 Which of the following statements does not hold true for restriction enzyme?**

- A. It recognizes a palindromic nucleotide sequence  
 B. It is isolated from viruses  
 C. It is an endonuclease  
 D. It produces the same kind of sticky ends in different DNA molecules

**Q.8 Specific sequence of four or six nucleotides arranged symmetrically in reverse order where restriction enzymes works is called:**

- |                          |                  |
|--------------------------|------------------|
| A. Okazaki fragments     | B. Cohesive ends |
| C. Palindromic sequences | D. Blunt ends    |

**Q.9 Restriction endonucleases do not cut bacterial DNA because:**

- |                   |  |
|-------------------|--|
| A. It is circular | B. It is methylated                      |
| C. It is specific | D. Palindromic sequences are not present |

**Q.10 Bacteriophages are used in biotechnology as:**

- |                          |                                    |
|--------------------------|------------------------------------|
| A. Vector or vehicle DNA | B. Restriction enzyme synthesizers |
| C. Cloning organism      | D. Molecular scissors              |

**Q.11 Which of the following tool of recombinant DNA technology is incorrectly paired with its use?**

- |   |   |
|---|---|
| A. Restriction enzyme – production of RFLPs     | B. DNA polymerase – PCR                   |
| C. DNA ligase – cuts DNA to creates sticky ends | D. Reverse transcriptase – cDNA synthesis |

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- D. Phosphorous ions  
 B. Enzyme replacement therapy  
 D. ADA gene introduced in early embryo  
 B. Retrovirus  
 D. *Agrobacterium*  
 B. Glomerular filtrate  
 D. Blood cells



- Q.42 Organoids containing gene for clotting factor are mostly used for gene therapy of:**  
 A. Haemophilia  
 B. Parkinson disease  
 C. Cystic fibrosis  
 D. SCID
- Q.43 Dideoxyribonucleoside triphosphates are used to terminate DNA synthesis at different site. Which method involves this procedure?**  
 A. Sanger's method  
 B. K. Mullis's method  
 C. Maxam-Gilbert's method  
 D. Gottlieb's method
- Q.44 DNA fragments generated by the restriction endonucleases in a chemical reaction can be separated by**  
 A. Centrifugation  
 B. Electrophoresis  
 C. Blotting  
 D. Restriction mapping
- Q.45 Antibody used to treat genital herpes obtain from:**  
 A. Corn  
 B. Sugarcane  
 C. Soyabean  
 D. Wheat
- Q.46 Which one of the following biotechnology product is used in heart patients?**  
 A. Tissue plasminogen activator  
 B. Hemophilia factor IX  
 C. Bovine growth hormone  
 D. Lovastatin
- Q.47 Chemical nature of biodegradable plastic is:**  
 A. Diphydroxy butyrate  
 B. Diphydroxy propionate  
 C. Polyhydroxy butyrate  
 D. Dihydroxyacetone
- Q.48 Which of the following is mostly used to develop transgenic animals?**  
 A. Sanger's method  
 B. Particle gun method  
 C. Vortex method  
 D. Microinjection method
- Q.49 Anti-thrombin III is currently being produced by a herd of:**  
 A. Cats  
 B. Goats  
 C. Dogs  
 D. Cows
- Q.50 During formation of transgenic plant, electric current used to make tiny holes in \_\_\_\_\_ that facilitates the entrance of genetic material.**  
 A. Nuclear membrane  
 B. Cell wall  
 C. Plasma membrane  
 D. Mitochondrial membrane

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Test Code 10

Key SAEED MDCAT

Subject Biology Test Syllabus CTS-10

1	A	21	A	41	A
2	B	22	C	42	A
3	C	23	C	43	A
4	C	24	B	44	B
5	B	25	D	45	C
6	A	26	B	46	A
7	AB	27	C	47	C
8	BC	28	B	48	D
9	BA	29	D	49	B
10	BA	30	B	50	B
11	AC	31	B	51	
12	C	32	C	52	
13	B	33	C	53	
14	A	34	A	54	
15	C	35	D	55	
16	C	36	A	56	
17	B	37	D	57	
18	A	38	B	58	
19	D	39	C	59	
20	A	40	D	60	